SECTION 26

REINFORCEMENT STEEL DETAILS

1.26.1 REINFORCEMENT PRESENTATION

a. On any plan sheet presenting the drawings for a portion of the bridge structure, such as a pier, all reinforcement bars pertinent to that pier shall be detailed and billed on that sheet (see Subsection 1.26.2 g. below).

b. In no case shall the same designation be used for reinforcement bars of a different size, length and shape which are employed in elements of the substructure, and the same shall be applicable to bars used in the superstructure.

c. When detailing lengths of reinforcement bars, consideration must be given to transportation and handling, and where extremely long lengths are contemplated, to availability and special orders.

d. All sizes of bars are readily available in lengths up to 18 meters. However, #10 and #13 bars more than 12 meters long tend to bend in handling; therefore, they should be avoided. Sizes #16 through #57 in lengths exceeding 18 meters can be rolled at mills by special order. Twenty-one (21) meters should be considered the practical limit in any circumstance.

e. When the location of bar splices is arbitrary, as in the case of the longitudinal reinforcement of deck slabs on stringers, the following maximum lengths are preferred:

#19 bars and up.....15 meters

#16 bars.....12 meters

#13 bars ..... 9 meters

1.26.2 REINFORCEMENT DESIGNATION

a. To provide uniformity in all bridge plans, the following rebar designations shall be used:

A .....Abutments
C.....Culverts
D.....Dowels
F..... Footings
P..... Piers
S.....Deck Slabs
W.....Walls
SS..... Sidewalks
PP.....Parapets

Use additional prefix letter or number when needed, i.e., NA for North Abutment, EA for East Abutment, 1 for Span 1, 2 for Pier 2, etc.

b. The following illustrates detailing notations:

25 - #16 - F1@ 450 millimeter ctrs.

20 - #16 - W2 @ 450 millimeter ctrs. (FF)

18 - #16 - W3 @ 450 millimeter ctrs. (RF)

20 - #16 - 1S2 @ 150 millimeter ctrs. (T)

20 - #16 - 2S3 @ 150 millimeter ctrs. (B)

c. Explanation of abbreviations shall be noted on the plans.

LEGEND

(FF) Indicates Front Face

(RF) Indicates Rear Face

(T) Indicates Top

(B) Indicates Bottom

d. If it becomes necessary to provide varying length reinforcement bars to accommodate a flared condition on any part of a structure, do not detail the bars in a table of small increment changes in length; detail the bars in groups of the same length to accommodate the flare by variance of lap. All bars in the same group shall carry the same bar designation.

e. Bars may be detailed to the closest 25 millimeters of length and the mass of reinforcement bars shown in the Bill of Material shall be to the nearest 5 kilograms.

f. The dimension of all laps shall be shown on the plans.

g. The Bill of Material shall be in the following form:

REINFORCEMENT STEEL - PIER #1				
No.	Mark.	Size	Length	Remarks
24	1P1	#25	4.7 M	Detailed
12	1P2	#25	9.14 M	Straight

When epoxy coating is required on rebars, "Epoxy Coated" shall be noted in the REMARKS column.

When galvanizing is required on rebars, “Galvanized” shall be noted in the REMARKS column.

h. Bent bars shall be detailed with complete dimensions. Hooks and bends shall conform to the charts shown on Page 1.26-4. Slopes on detailed bars shall be indicated as 12:x.

i. Other reasonable systems of bar designations will be considered for approval on an individual project basis.

k. The Designer shall designate which corrosion protective system is to be used. Placement of epoxy coated and galvanized reinforcement in a single structural unit should be avoided.